

P a t e n t C l a i m s

1. Sensor measuring by capacitance, in particular for the detection of an obstruction
5 of objects or body parts by motor driven devices, comprising an arrangement of a
multitude of electrodes on a support and means to measure a capacitance or a ca-
pacitance change, whereby the sensor is designed flat and film-like with a support
made out of a film material for the arrangement of the electrodes, wherein the
electrodes (18) are arranged on one side of the support, and ambient air represents
10 the dielectric.
2. Sensor according to claim 1, wherein it is connected to an automatically readjust-
ing threshold switch (23).
- 15 3. Detection device comprising a capacitive sensor system for detecting whether
objects or body parts are caught in motor driven devices, wherein the capacitive
-sensor system (6) comprises several sensors (8 – 11) according to claims 1 or 2.
4. Detection device according to claim 3, wherein an obstruction situation is de-
20 tected when a selection of several sensors (8 - 11) are responding, in particular
two adjacent sensors (8 – 11).
5. Detection device according to claim 3 or 4, wherein the motor driven device, for
which an obstruction of objects or body parts is detected, is embodied as a con-
25 vertible top (1) of a convertible vehicle.
6. Detection device according to claim 5, wherein the sensors (8 - 11) are located in
the area of elements (12, 13) that are connected with each other by hinges-like
connections and that are elements of a convertible top linkage and/or a tensioning
30 bow (14) and/or a convertible top compartment cover (17) and/or a windshield
frame (16) and/or an area (15) adjacent to a window.

7. Detection device according to claims 5 or 6, wherein the sensors (8 - 11) that are used to detect an obstruction situation are located between a sealing section and/or trim parts and their support.
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8. Detection device according to one of claims 5 to 7, wherein the capacitive sensor system (6) is interacting with a sensor system (7) that uses measurements based on a different measuring principle in order to detect an interference into the range of motion of the convertible top mechanism (2), whereby, after a malfunction of the detection device (5) or an obstruction situation is recognized, the convertible top motion is controlled by a control device (3) in a safety mode (S9), in which the convertible top motion continues with reduced speed and power or is stopped or reversed.
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9. Detection device according to claim 8, wherein the capacitive sensor system (6) interacts with an optical sensor system (7).
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10. Detection device according to claim 9, wherein, safety mode (S9) is started when a malfunction is recognized in the optical sensor system (7).
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